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ABSTRACT

This paper discusses self-reference in the text, in order to examine its rhetorical intentions, and the writing strategies it offers an author. Following a brief introduction, the first section deals with definitions, and classifies self-reference "markers." The second section discusses intentions and self-reference, while the third section deals with the persona and model reader. Self-reference and text-segmentation are the focus of the fourth section, while the fifth section discusses text-graphics and self-reference. The sixth section deals with self-reference and text-replication, while the seventh section discusses self-reference as metacognition and includes students' self-exercises. Modeling aspects of self-reference is the topic of the eighth section. Eight figures and 25 notes are included. (SR)

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THE SELF-REFERRING TEXT: STRATEGIES AND INTENTIONS

Gene Washington

> Self-reference is ubiquitous. It happens every time anyone says 'I,' 'me,' or 'word,' or 'speak,' or 'mouth.' It happens every time a newspaper prints a story about reporters, every time someone writes a book about writing . . . .
> Douglas R. Hofstadter, Scientific American, January, 1981, p. 22.

Perhaps I should begin by saying what I think self-reference in the text is not. First it is not extra-text reference, reference to persons, places, times, things existing in a world independent of the text.[1] Next self-reference, unlike extra-text reference, is not an obligatory feature of the text. You or I can write a text (and probably have) completely without self-reference. Examples of the non-self-referring text are Blake's The Tiger and this aphorism of Patanjali:

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1. Now concentration is explained.
2. Yoga is restraining the mind-stuff (Chitta) from taking various forms (Vrittis).
3. At that time (the time of concentration) the seer (Purusha) rests in his own (unmodified) state.[2]

Finally, self-reference does not seem to be exclusive to one genre of texts. Many of Blake's poems are self-referring and self-reference markers can be found in Tristram Shandy, Gulliver's Travels, and articles from the Scientific American.[3] Of the various types of texts discussed today in colleges and universities (classic, creative, expository and technical), only the technical text, however, seems to be consistently self-referring and in the same way. That is, the technical writer will tend to cluster self-reference markers near the beginning of the text and then, by way of summary, at the end.[4] Texts with an abstract, additionally, will usually have self-reference markers.

My students and I, in both literature and writing courses, routinely discuss self-reference in the text. Our purpose is to try to understand (1) its rhetorical intentions, and (2) the writing strategies it offers the author; that is, the rhetorical options he or she must know in order to write the self-referring text. What follows is essentially a report on our discussions of (1) and (2). Our hope is that it will not only

be useful to composition and literature teachers, but will also start further discussions on this important, but complex subject.

I: Definitions

Self-reference appears in the text in the form of self-reference "markers." My students and I classify these, on the basis of their function, into the following:

(1) Spatial: These include terms like "here," "in this place," "in the last paragraph," etc. Their principal function is to orient the reader to a particular text-location and, perhaps, the information in it. They may also operate to jog the reader's memory about some information previously given.

(2) Temporal: Here are terms like "now," "before," "last," "later," and "then." They segment the flow of information in a text into discrete stages of time, and orient the reader to one such stage, either the "now," the "before," or the "later." Where orientation is to the "before" we have what linguists call "anaphora"; orientation to the "later" may, following Halliday and Hasan, be called "cataphora."[5]

(3) Personal: Here are first-person pronouns, "I," "we," "our," the second-person "you," proper names, and descriptive titles, "the engineer," "the postman," and so on. Their referent is always the author, her persona, or intended reader.

A constraint on using a proper name, or a descriptive title, is for it to take the author, or her persona, as its referent; that is, it must not have as its referent some person (character, personage) not previously identified as the author or persona.[6]

(4) Characterizing: These are adjectival, or adverbial, expressions used by the author to characterize the text, or some part of it, or something (persona, reader) presupposed by it. They include, for example, expressions like "this account is obviously incomplete," "I will give a rather hasty overview of the subject," "self-reference in a text is a very important, but difficult, subject." Characterizing markers can also be identified in the text by their "scope" which may be either over the whole text, or some part. Markers with scope over the whole text typically occur, at least in the technical text, in the opening lines; those with partial scope in the middle, or at the end, of the text. Markers with partial scope can also be identified by their anaphoric function. For example:

> There are at least three generalizations of Greek syntax for which the distinction between finite and non-finite verbs is crucial. [This] is an important step . . . .[7]

(Where anaphora is the relationship between "this" and the utterance preceding it.)

(5) Quantifying: Included here are expressions like "half," "major," "most," "all," "none," etc. Their function is to signify what the scope of the other markers will be over a specified part of the text; alternatively, what the "I" says she will do, or has done, in a particular part of the text:

> The [major] part of [this study] documents these conditions and their effect on reflexivization in Russian.[8]

Such quantifiers may be further defined by negation. Thus "all" can be interpreted as "not some," "major" as "not minor," and "none" as "not few (some, all)," etc.

(In quoted materials here some major self-reference markers are placed in brackets.)

(6) Explanatory: "Reason," "cause," "purpose," "explanation," and the like are examples of these markers. Their function is to answer the reader's question (or possible question) of "why?" Such a question must have reference to the purpose of the whole text, to some strategy of the author (or her persona), or specific text-structure. These markers usually combine with personal ones:

> In discussing Carnap's system, [I] feel that exposition and criticism are equally important, [since] few of [my readers] are likely to be familiar with the system

> of the Aufbau in sufficient detail for the [purpose at hand.] I shall therefore [explain] each step of the system [before] commenting on it.[9]

On the whole, then, such markers help to make the author's, or persona's, motives intelligible relative to the whole text-subject; or, as in the above, to some aspect of it. In the latter, correlation is to some text-location.

All such markers generate what may be called a cognitive "map" of the text; one laid out by the author to guide herself and the reader through the text. As such, it encodes information not so much about the subject of the text, but more about how the text and its parts can, and should be, understood; alternatively, what information in the text can be used to do, drive a car, say, dig a ditch, or write a paper. It follows from this that the self-referring text imposes a tighter control over the reader's interpretation than the non-self-referring one. This may explain why self-reference seems to be more a feature of prose than of poetry, more of the highly technical text than the discursive essay.

To further illustrate what I have just said let me quote two passages that cause the texts in which they appear to be self-referring. The first is from Gulliver's Travels (Bk. 1, Chp. 4) and the second from the Scientific American (September, 1981, p. 67):

(1) But I shall not anticipate the Reader with farther Descriptions of this Kind, because I reserve them for a greater Work, which is now almost ready for the Press; containing a general Description of this Empire, from its first Erection, through a long Series of Princes, with a particular Account of their Wars and Politicks, Laws, Learning, and Religion; their Plants and Animals, their peculiar Manners and Customs, with other Matters very curious and useful; my chief Design at present being only to relate such Events and Transactions as happened to the Publick, or to myself, during a Residence of about nine Months in that Empire.

(2) This issue of Scientific American is devoted to industrial microbiology, with special reference to the changes in it that are likely to result from the introduction of the new tools of genetic manipulation. The articles that follow will address major subdivisions of the topic, in each case placing the anticipated benefits of the emerging biotechnology in the appropriate historical, economic and social perspective. First, however, we shall present a brief overview of the entire field.

II: Intentions and Self-reference.

Let me now turn to the "whys" of self-reference. If we distinguish carefully between prepositions like "in," "of," and "with," then we can differentiate purpose *in* a text from purpose *of* a text, and purpose *with* one. *Of* and *with* are functions of *in*; that is, by stating one's purpose *in* the text (itself a matter of choice) an author will also state what the purpose *of* the text is, or what the reader is supposed to do *with* it. *With* presupposes an instrumental view of the text. The reader is invited to use its information to accomplish some task, or solve some problem. *Of*, by contrast, involves a set of authorial statements on how the reader should understand the text as a whole; alternatively, what kind of text it is, a classification of X, say, a definition of X, or a proposal to do X.

Statements of purpose *in* the text are self-referring inasmuch as they always take the text-author and his intentions as their referent. Typically, the author will use self-reference markers like "I," or "we" (if the text is first-person narration) plus those that identify the intentions. The effect is for the author to depict himself as performing some task:

> In [this] article [I] shall trace the story of some of the discoveries, chronologically, in hopes of

> reminding the [reader] that complex biological systems are not often elucidated all at once, or even in logical progression.[10]

Although statements of purpose, like the one just quoted, are written in the future tense, such statements may also refer to some past or present situation in which the author depicts himself playing some role and possessing some social status; that is, possessing such and such an income, academic degree, etc. The purpose in this is to attempt to persuade the reader that X is the case (or that X should be performed) because X is an object of deep knowledge and experience to the author.

Self-reference is even more important (certainly more obvious!) in an author's restatement of purpose. In restating, self-reference takes a recursive, "looping," configuration. The first restatement loops back to the original statement of purpose, and the second restatement back to the first restatement, and so on. If the original statement occurs in paragraph #3, say, and restatements in #5, 7, and 9, then the whole can be represented in the following way (see Figure 1):

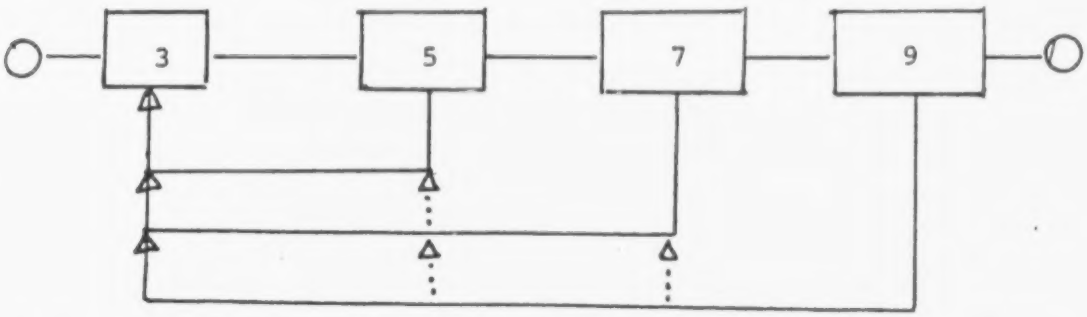

Fig. 1. Where arrows represent self-referring expressions.

Several rhetorical exigencies are at stake here: (i) the need to remind the reader periodically of authorial purpose, (ii) to revise the original statement of purpose, or its restatements (a procedure shown in Figure 1 by dotted arrows), or (iii) to generate additional text-information. Stating and restating purpose, that is, produce a longer, and "heavier," text than one without it. An example of (ii) appears in Miller & Johnson-Laird, Language and Perception. Its one statement of purpose (p. 3) is followed by some 30 more restatements. The text has 760 pages.

III: The Persona & Model Reader.

> The first voice is the voice of the poet talking to himself--or to nobody. The second is the voice of the poet addressing an audience, whether large or small. The third is the voice of the poet when he attempts to create a dramatic character speaking in verse.
> T. S. Eliot, The Three Voices of Poetry.

In the previous section markers like "I," and "my" were said to take the author, and his intentions, as their referent. In some texts, for example, the ironic ones of Swift, such markers may instead take a persona as referent; someone in the text not the author. Likewise, the marker, "you," may take some model reader as referent. Such reader does not necessarily

have to be in the audience of the text (if, indeed, the text actually reaches an audience other than that of its author) as a given. It is more likely that she is created by the author as he goes along.[11]

In addition to an "I," or "you," the persona and reader may be given a proper name or descriptive title. In Tristram Shandy, Sterne refers to the reader under the name of "Virginia," and Swift, in Gulliver's Travels, variously calls his reader, "gentle," and "judicious." In Life-Story, Barth characterizes his reader as a "print-oriented bastard." The overall distinction we should perhaps make here is between the definiteness, and indefiniteness, of the self-reference marker. A definite one like a proper name creates a more individualistic (and informative?) persona or reader than an indefinite one like a personal pronoun.

The presence of such markers correlates generally with some rhetorical intention of the author. A persona or model reader may be in the text as an object of satire, or panegyric. Or the author may want to create a persona with a high moral character because he believes his audience is only receptive to moral arguments from a moral speaker (cf. the vir bonus ["good man"] principle of classical rhetoric). Additionally, a model reader in the text might give the whole the flavor of a dialogue, of the author having a conversation with some likeminded friend. Letters are perhaps the most common context of the "you," but it

also occurs in Hemingway, especially in non-fictional, or semi-fictional, pieces like A Moveable Feast and The Green Hills of Africa. Finally, a persona and model reader presuppose what is known as the "mimetic" text: one that reflects the real-world knowledge of its audience.[12]

Rhetorical intentions here must be very numerous and correlative of such conditions as (i) the spatiotemporal context of the text (in what age was it written?), (ii) knowledge and needs of the audience, and (iii) personal circumstances of the author. Instead of trying to specify (i), (ii), and (iii), let me focus on the sources from which an author may create such a persona, or model reader. Please consider these:

(1) The ability of a person to perceive X.

(2) To feel X.

(3) To intend X.

(4) To remember X.

(5) To evaluate X.[13]

Perception, feeling, and to some extent, evaluation, have reference to the present, to "now." Remembering X has reference to the past, and intending to the future. At least the execution of an intention, if it occurs, does so at some time later than its moment of inception. As an example of an author's use of (1) through (5) consider Gray's Elegy in a Country Churchyard. In the opening lines the "I" describes a scene at sunset, the sounds of the curfew, a "droning" beetle, a herd of cows going

home. He then goes on to describe the graveyard and to recall details from the lives of people buried there. Finally, he turns to an evaluation of their lives, how they differed from the lives of the rich, powerful and leisured. Evaluation, in other words, is recursive on material supplied by perception and memory; and to a lesser degree, feeling.

All texts with either a persona, or model reader, I would maintain, depict the authors constructing their characters from these capacities. Their balance and precedence differ, however, from text to text and from one genre to another. The technical text, for example, puts more emphasis on perception than on feeling, more on evaluation than memory. The fictive text places feeling above evaluation and memory above intention.

IV: Self-Reference and Text-Segmentation.

This involves, on the one hand, the division of the text into various parts (sentences, paragraphs, clauses) and, on the other, the calling of the reader's attention to such parts. Text-segments include not only the written word, but also visual parts of the text, pictures, diagrams, and graphs.

Text-segmentation is most intelligible to my students, I find, if it is presented to them as a two-stage decision procedure. At stage one, the author decides whether or not the text should have graphics plus where they should go in the text relative to the whole. At this stage she also decides whether or not the

text should have graphics plus where they should go relative to the whole. At stage two the author decides whether or not to call the reader's attention to such segments by means of self-reference. (Stages one and two, I should say, need not follow each other in sequence; they can occur simultaneously during the time the author is planning her text.)

Stage two, the stage of self-reference, is essentially a numbering, and renumbering, of segments. Near the beginning of the text the author will want to number all the text-segments. Then, at later text-locations, she renumbers them. The purpose may be to (a) inform the reader, as road signs may inform a traveler, how far he has come, and how far he still has to go, (b) to teach the reader what the optimal segments are for this kind of text, or (c) maximize his chances of remembering specific bits of text-information; (c) might be considered a strategy for overcoming the reader's tendency to forget previously presented text-information. If a segment is renumbered, then so may its information be recalled. Here renumbering becomes tantamount to renaming; the name invokes concrete images of the thing named and renamed. Where text-information is remembered by reference to some text-segment we have, perhaps, what psychologists call "imagery."[14]

V: Text-Graphics and Self-Reference.

Text-graphics, in a broad definition, includes all text-information encoded in some other form than the written word; that is, in the form of colored illustrations, pictures, and the like. All the articles in the Scientific American, as well as most technical texts, have graphics. What sort of self-referring procedures do graphics make possible? How does self-reference make the purpose of graphics more intelligible to the reader? Please consider the following:

(a) To illustrate some self-referring event, process, or idea. An example here is the ouroborous (a snake shown devouring its tail) used as a symbol for the integration of consciousness in Jungian psychology. Teachers of computer science, in addition, use the following kind of self-referring diagram (see Figure 2) to demonstrate iterative computing procedures:

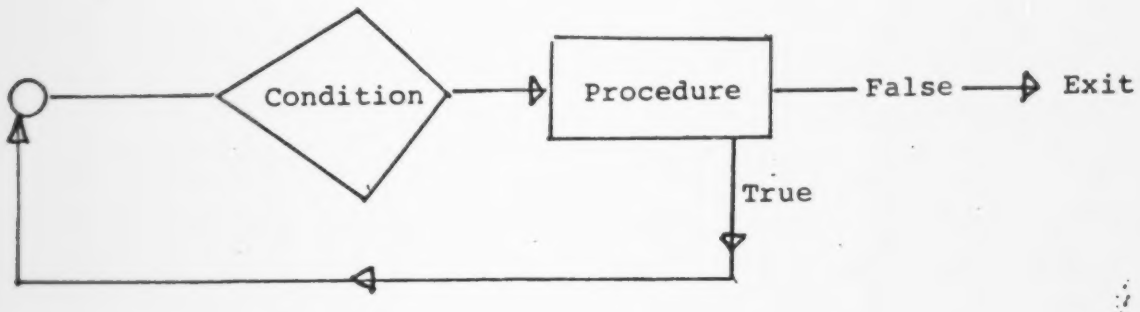

Fig. 2. Shows that as long as some "condition" is true iteration (looping) will continue. When the condition becomes false, then looping stops, an "exit" occurs.

(b) To make text-graphics self-referring with the linguistic parts of the text. Here self-reference is realized as any relationship between the sentences of the text and its graphics. A common example is the caption on the illustration and the illustration itself. The caption explains the illustration in a conceptual way, and the illustration, in turn, visualizes whatever information is being conveyed by the caption. The caption and illustration exemplify what psychologists call the "inexpressibility theorem."[15] Each explains (makes intelligible) what the other alone cannot.

(c) To make one type of graphics take another as its referent. A travel guide to England, for example, typically shows London in different sizes. The smaller-sized London might show the traveler where the city is relative to the country as a whole and indicate its major streets. The larger-sized London (a "blow-up" of the smaller-sized one) would be useful to the traveler in finding individual streets, Picadilly, Charing Cross, etc., and places of interest, the British Museum, the Tower of London. It meets her needs while she is actually in London.

(d) To make an illustration refer to itself in order to arouse the interest of the viewer-reader. The self-referring nature of Figure 3 (below) is an example. It is an advertisement for paint. I have reproduced it from the Scientific American, (September, 1972, p. 93).

Fig. 3.

VI: Self-Reference and Text-Replication.

Text-replication concerns the need of the author to have her text replicated in texts later written by the reader. Like DNA-replication, it requires not only the means to produce a

successful replication, but also those which will prevent it from not occurring. We can say, using the terminology of the geneticist, that in order for an author to insure the survival of her text in the texts of other writers, she must (i) encode "long-term hereditary information about the text in the text, and (ii) provide the means, also in the text, for "repairing damage" done to such information.[16]

Hereditary information is, minimally, any text-information whose purpose it is to identify the type of text it is. The text must contain, that is, utterances that convey information of the following kind:

(a) Reader! I am an allegory, a lyric poem, a technical paper.

(b) Reader! Notice my structure, my metaphors, my punctuation, and footnotes.

(c) Reader! Note my rhetorical intention.

Text-graphics might also be part of such information.

"Damage" to hereditary information occurs whenever the reader fails to decode it; alternatively, fails to execute some procedure described in the text. Since a successful decoding falls under the control of the reader alone (that is, no author can ever force a reader to decode information successfully), let me focus for a moment on some ways of maximizing successful decoding (minimizing failure). Each of these procedures, I should emphasize, is produced by the author's ability to make her

text self-referring in ways described above:

(1) Stating, and restating, the thesis of the text. Only restating, since it takes the original statement as its referent, is self-referring. Each restatement loops back to a previous restatement and all restatements back to the original statement. In "Ancient Catapults" (Scientific American, March, 1979), for example, the original statement of thesis occurs in paragraph #10: "In sum, catapults significantly affected the direction of warfare and with it the equilibrium of politics and society. Broadly speaking, they shifted the advantage in favor of the offense" (p. 153). This statement then undergoes many more restatements, in paragraph #16, "In the new arrangements the ancient engineer tended to benefit," and in the final paragraph, "During the ancient period the changes in which the catapult played a key part prefigured in striking ways issues that would appear again in the relations between science and technology on the one hand and warfare and society on the other" (p. 160).

(2) Inferencing. No matter what theory of inference we espouse, we must assume that most readers extrapolate meanings from a text not actually stated in the text.[17] Such extrapolation, typically, rises from a reader's world knowledge. Thus, although the term is never mentioned in the text, most readers of A Modest Proposal know that Swift is talking about cannibalism; or, again not mentioned, that Hemingway's characters in The Hills Like White Elephants are discussing the abortion of their child.

In this two broad authorial strategies are possible: she can either try to help the reader generate an inference, or she can try to countermand (cancel) a possible one. In the first the author tries to induce the reader to think favorably about the text as a whole, the character of the author, her thesis, or style.[18] In the latter, the intention is to force him not to think unfavorably of the text or the author. Both are encoded in the text by statements like the following:

(i) "I don't mean to suggest here that . . . ."

(ii) "Now I would like to reiterate what I said earlier . . . ."

(iii) "It is not my purpose here to . . . but to . . . ."

(iv) "I think that it is unethical to suggest, as . . . does, that . . . ."

I find that the Bible makes a good classroom text for studying such inferencing-strategies.

(3) Text-cohesion. Texts that generate replicas of themselves must be well organized, especially at points of transition between sentences and paragraphs. If structure B follows A, then successful transitional devices must indicate that B is the logical consequence of A; or that A and B are integral parts of the text, not some alien intruders. Let me discuss for a moment how self-reference operates in this area.

First I make a distinction between the "use" of a text-utterance and its "mention." If I ask you "What did you do last night?" then I am "using" a question; if I add to it, however,

"The reason I am asking you this question is that I called on you last night and you weren't at home," then I am also "mentioning" the question I used. "Mention" presupposes the "use" of the question.[19]

Self-reference occurs whenever an utterance is both used and mentioned. Examples:

(i) The mention of an example and then its use.

(ii) The use of an analogy and then its mention.

(iii) The use of a term and then its definition (mention). An example here is the use of "self-reference" in this text and then its definition.

(iv) The use of a question and then its mention.

Each of these can be employed as transitional devices between text-structures:

STRUCTURE A

"Redundancy of information may be defined as the repeating, in different syntactical form, the same idea. For example

'Are Tv crime-shows a cause of crime?'
'Tv crime-shows often generate criminal activity.'"

STRUCTURE B

"Will President Reagan be able to agree with the Russians about arms control?

This question is hard to answer."

Fig. 4. The arrow points from mention to use.

VII: Self-Reference as Metacognition: Students' Self-Exercises.

Teaching students to write, I believe, not only involves showing them what to write about, how to structure information in a paper, but also to monitor their thought-processes while they write--to perform for themselves what a contemporary psychologist calls "metacognition":

> Metacognition refers to one's knowledge concerning one's own cognitive processes and products or anything related to them, e.g., the learning-relevant properties of information or data. For example, I am engaging in metacognition (metamemory, metalearning, metaattention, or whatever) if I notice that I am having more trouble learning A than B; if it strikes me that I should double-check C before accepting it as a fact . . . . Metacognition refers, among other things, to the active monitoring and consequent regulation and orchestration of these processes in relation to the cognitive objects or data on which they bear, usually in the service of some concrete goal or objective.[20]

Students can be trained in the basics of metacognition by casting it in the form of self-referring exercises. One set of exercises involves the process of writing (finding a subject, gathering information about it, etc.) and the other set with the final written text. In the latter the goal is to identify self-reference markers in one's own text and to give reasons for them to me or to fellow students.

For exercises with the process of writing (a pretext activity) I ask students to begin with the following model (see Figure 5):

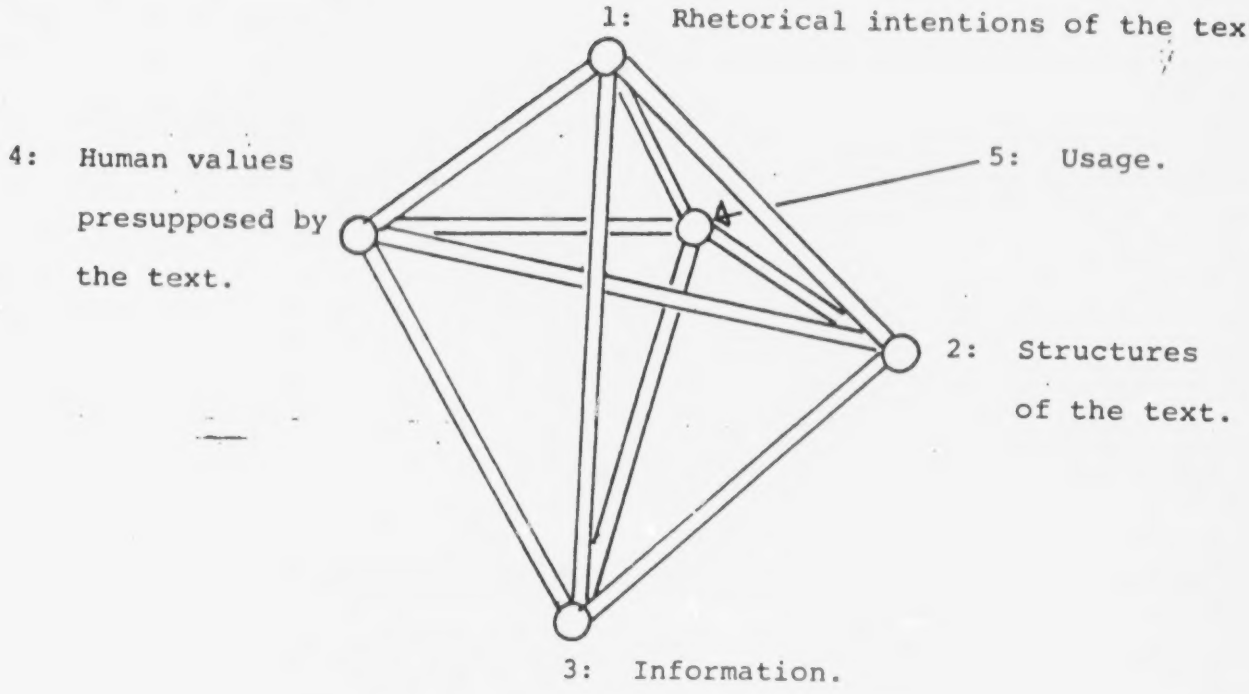
1: Rhetorical intentions of the text.
4: Human values presupposed by the text.
5: Usage.
2: Structures of the text.
3: Information.

Fig. 5.

While he is in the process of writing, that is, the student is asked to monitor activities in each of these areas, 1, 2, 3, 4 and 5. Each of these has its locus in some specific text, and in discrete questions the student puts to himself. Here are some representative questions from a recent class in technical writing (English 303):

1. Rhetorical intentions. Is the purpose of this text to identify some technical problem and then offer a solution to it? Is it to request permission to perform some task: Is it to inform the reader of some new technological procedure? Should I state the purpose in the text? If so, in what location?

2. Structure. Should this text be segmented according to the style sheet of some technical journal? Should it have graphics? Should every segment have a heading? Do I know exactly how to document information from other written sources? How to use special punctuation marks like brackets and italics?

3. Information. Is my information new, relevant and reliable? Can the reader run a check on its validity? Are its sources clearly indicated in the text? Will this information meet the needs of the reader?

4. Values. Human values can be both a source of information in the text, or information made intelligible by the text. They help to increase (intensify?) the informative content of the text. Such values correlate with human needs, and desires. Thus most people have the need for security, for feeling safe at work, the need for friendship and prestige. They also have the need to avoid poverty, disgrace and illnesses. Values fall, roughly, under the following heads:

(a) Political. X has political value because it helps to expedite the political process, preserve the political system, etc. Examples are the legislative bodies, the army, local and national politicians.

(b) Religious. Icons, churches, clergy, etc. are examples here.

(c) Aesthetic. Literature, pictures, music are examples.

(d) Entertainment. Sports, games, leisure (as opposed to work) activities plus the implements needed to participate in them.

(e) Economic. X is either a source of profit to Y or a cause of debt.

Using these as her starting point, one of my students (Laura Grady) recently raised these questions about her subject, computers on campus:

(1) Should the value of computers be related to (i) the people who use them, students, faculty, administrators; to (ii) the kind of work computers do, computing the payroll, keeping track of student grades; or (iii) simulating future conditions for scientists on campus?

(2) Should I say that the main value of the computers is economic?

(3) Should I mention "disvalues" of the computers? Its cost, the space it takes up, control over the lives of students and faculty?

(Please notice that for every value we may have a disvalue.)

5. Usage. Does my text violate accepted standards of spelling, or punctuation?

The second set of exercises (on self-reference as meta-cognition) are designed to explain why one's text is self-referring; why it is not non-self-referring. I usually ask students to do their explaining first to fellow group members (each student is assigned to a group at the beginning of the class) and then later to me in conferences. In this students can either start from the model above (Figure 5.) or from their own theory of self-reference.

VIII: Modeling Aspects of Self-Reference.

> We use the term 'model' in the following sense: To an observer B, an object A* is a model of an object A to the extent that B can use A* to answer questions that interest him about A.
> M. L. Minsky.[21]

I find that it helps students to understand the more important aspects of self-reference if my discussions are supported by visual models. (Slides are my usual mode of presentation; transparencies, blackboard drawings and handouts are a bit more cumbersome.) The aspects I have in mind are (a) the relationship between self-, and extra-text, reference, and (b) variable ways markers like "I," "me," etc. appear in

the text. I later refer to these as markers of SELF.

For the model of (a) see Figure 6:

LEVEL 2: **Self-Reference**

LEVEL 1: Extra-text Reference.

ZERO-LEVEL:

Extra-text Reality

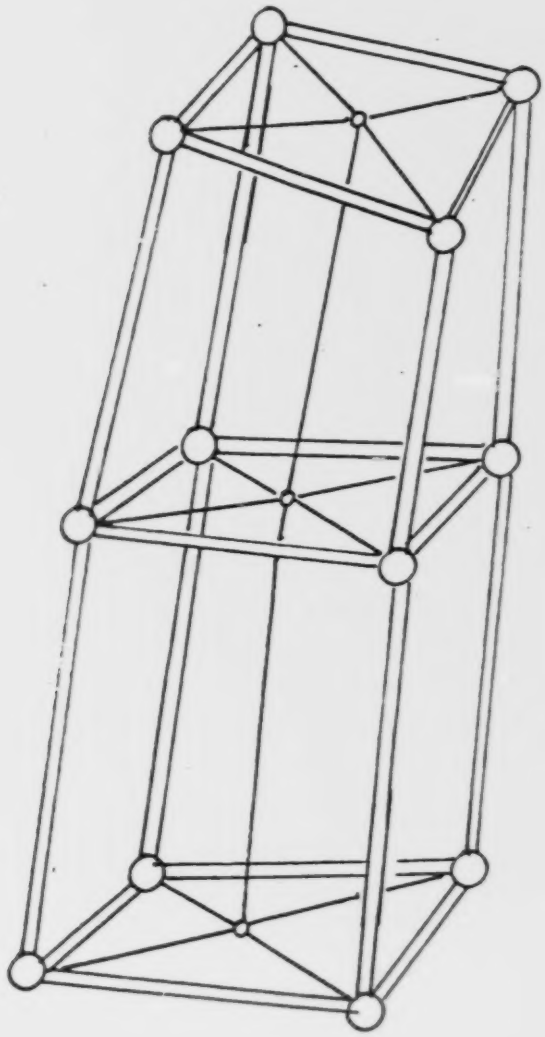

Fig. 6.

Zero-level represents what the author (and some of her readers) perceives, experiences and remembers. For me, the author of this text, they include my students I see every day, the books I have read (and have quoted here), this page I am now composing. Level 1 is the level of extra-text reference, the first level of language and a necessary condition for the creation of the non-self-referring text. This level may establish conditions for the distortion of reality; the author, for example, may lie about reality, or simply forget what experiences it has given her.[22] Or she may, as in the case of science fiction and fantasy, create a reality which neither she nor the reader could ever experience.

Level 2 is that of self-reference. Unlike extra-text reference, it is not necessary for the creation of the text. Blake's The Tiger, as I mentioned earlier, does not use this level. I see this level, moreover, as answering questions the reader may have about level 1. These include questions about genre and purpose: "What kind of text is this? Where have I seen it?" "What am I supposed to do with it? What is its intention?" Other questions are those about the structure of the text and information in it: "Why is the text segmented this way?" "Where did the author go to get her information for it?" I also see the answers to such questions as a possible distortion of level 1. That is, level 2 may not be able to answer correctly, or adequately, questions about 1, a condition that can be traced

to the author's own lack of understanding of her text.

(Such distortion, I should say, may be a necessary feature for the author creating the ironic text.)

For model (b) see Figure 7:

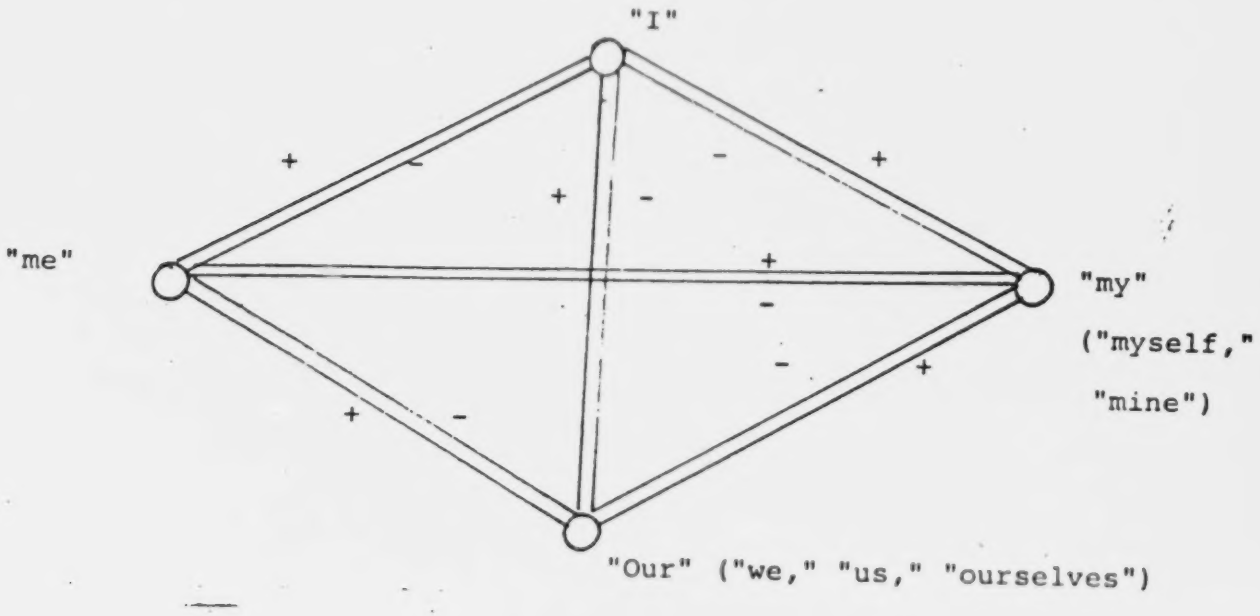

Fig. 7.

Here the purpose is to visualize the appearance of the SELF in the text. The + and - signs denote that the relationship between them can either be one of harmony or disharmony (conflict).[23] Harmony can be the source for a statement like, "I know myself very well," and disharmony for, "I don't understand myself at times." Questioning one's motives, or puzzling

about one's hatred, lust, or appetite may also be signs of disharmony. If I am a member of a group, a political party, the English department (the "our," "we," "us"), then my relationship with it may also be either harmonious or disharmonious.

I interpret the model as showing the "I," "me," etc. as possible variables for the SELF in the text. This means that (i) not all variables need to appear in the text, (ii) that one may occasionally replace another, and (iii) that each variable appears "bound."[24] The author might bind the "I," for example, as female, a mother, a daughter, a cousin, or as a member of the Episcopal Church. He might bind the "me" to a specific historical event with statements like "Let me tell you what happened to me last Wednesday on my passage from Liverpool to Dublin," or "The cost of supporting me at Utah State was too much for my family so they sent me to the cheaper Weber State." "Our" ("we," "us") usually binds the SELF as a participant in a joint effect (for example, the joint authorship of the text), or as a member of some group (political party, institution) pursuing its goal. The "our," in short, gives an identity to the "I" and "me" by virtue of some plurality of SELVES.

All this allows us to raise more questions about the SELF than would otherwise be possible. Here are some from recent classes, one in technical writing (English 303) and the other in eighteenth century English literature (564):

(1) How many different variables are used to represent the SELF in this text? My students of technical writing have found that the "I," on the average, appears five times as often as the "my" or "our." "Me" is an extreme rarity. (See, as an example, "The Prehistoric Ground Drawings of Peru," Scientific American [October, 1978].) In Gulliver's Travels, by contrast, all possible markers of SELF appear, and "me" as often as "I." The "I," in general, points to Gulliver in the role of author, the "me" in that of actor; "our," finally, relates Gulliver to larger groups, the race of all Englishmen, Europeans, and all Yahoos. These various roles for Gulliver also generate conflict in the work. In particular, the "I" role conflicts with the "me" one. As the locus of intentions, the "I" wills one thing, but the "me" falls victim to chance and the designs of evil men (as in Lilliput).

In the technical texts we have examined such conflict does not exist. This suggests to us (and we are now trying to obtain more data to support our theory) that there is what might be called a technical SELF with the following characteristics:

(a) Appears primarily as the "I" which, in turn, is portrayed as a highly rational SELF, one that evaluates, criticizes, and quantifies.

(b) The "our" appears in order to relate the SELF to some professional group. Such group is usually the source of the credentials of the SELF.

(c) If "me," or "my," appears it is never in conflict with the "I."

(2) Is the SELF in conflict with itself in order to create the ironic text? This question arises from the situation of the SELF in works like Gulliver's Travels and Tristram Shandy. In both the role of the "I" is to explain, evaluate, and judge; that of the "me" to fall victim to misfortune. Thus the "me" becomes the major source of data for the "I's" observations about the world. Is this I-observer, me-victim, a necessary condition for irony, at least in first-person narration?

(3) Does the "I," "me" etc. play a role in the cohesion of the text? The question assumes that the "I" is the same SELF throughout the text and, consequently, that it gives an overall unity to it. It also assumes that the "I," "our," etc., can give unity to a sentence or paragraph within the text. The three-fold repetition of "I" in the following paragraph is an example:

> In seeking answers to these questions I found that no study had ever been made of the pitch stability and control characteristics of the canard-type Flyers. At the Thayer School of Engineering of Dartmouth College I have made such a study . . . . I then explored the machines' dynamic stability by simulating their flight on a computer.
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> (Scientific American, November, 1978, p. 184).

Obviously, this model of the SELF is incomplete. We have not yet addressed the question of genre and markers of the SELF, nor the possible effect of the "I," "me," on the "you," or "the reader." If every text presupposes an I-SELF and a you-SELF, and a possible harmonious, or disharmonious, relationship between them, then model (b) (Figure 7) would have to be amplified (see Figure 8):

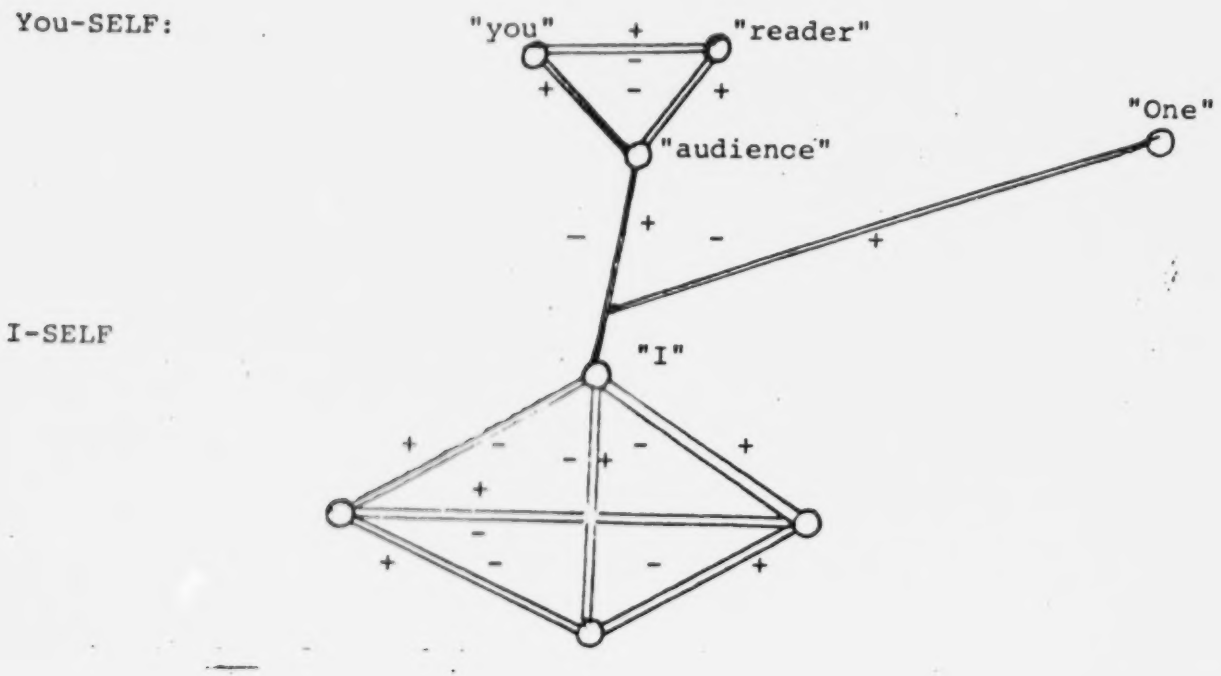

Fig. 8.

+ and - again represent harmony or disharmony. On the line connecting the I-SELF with the you-SELF they also represent the author establishing, or not establishing, identification and

"consubstantiality" with the reader.[25] "One" is given a place half-way between "you" and "I" on grounds that it takes both as its referent; that is, it can be interpreted as "both you and I."

REFERENCES

[1] A shorter version of this paper was read at the Conference on College Composition and Communication, San Francisco, March, 1982. Extra-text reference is usually discussed by contemporary philosophers, linguists and psychologists under the headings of "deixis," "real-world knowledge," or "referentiality." See, for example, John Lyons, Semantics (Cambridge, 1977), I, 80; Eve V. Clark and Herbert H. Clark, "When Nouns Surface as Verbs," Language, Vol. 55 (1979), 767-811; Torban Thrane, Referential-Semantic Analysis: Aspects of a Theory of Linguistic Reference (Cambridge, 1981); W. V. O. Quine, Word and Object (MIT, 1960). For a discussion of self-reference in the novels of Italo Calvino see Joann Cannon, Italo Calvino: Writer and Critic (Ravenna, Italy, Longo, 1982).

[2] The Wisdom of China and India, ed., Lin Yutang (New York: Random House, 1942), p. 120.

[3] The source of self-reference in the text is obviously the capacity of language, often noted by linguists, to describe itself, or take itself as its own "data." Such capacity has many names, "reflexivity," "metalinguistic," "use and mention" (see Lyons, I, 5-13).

REFERENCES (2)

[4] These were the general findings of a survey done by students in a recent class in technical writing. They examined articles from the following journals: Journal of Range Management, Journal of the American Dietitians Association, Dialysis and Transplantation, Journal of Animal Science, Journal of Infant Behavior and Development, Journal of Child Psychiatry and Human Development, Journal of Bacteriology, Journal of Biological Education, The Journal of Animal Ecology, Journal of Wildlife Management, and Wood and Wood Products.

[5] M. Halliday and R. Hasan, Cohesion in English (London: Longman, 1976).

[6] The referent of a name or title not the author or persona would be a case of extra-text reference.

[7] Brian Joseph, "Linguistic Universals and Syntactic Change," Language, 56 (1980), 358.

[8] Alan Timberlake, "Reference Conditions on Russian Reflexivation," Language, 56 (1980), 777.

[9] Nelson Goodman, The Structure of Appearance (Indianapolis: Bobbs-Merrill, 1966), p. 151.

[10] Paul Howard-Flanders, "Inducible Repair of DNA," Scientific American, November, 1981, p. 72.

REFERENCES (3)

[11] Cf. Walter J. Ong, S.J., "The Writer's Audience Is Always a Fiction," PMLA, 90 (1975), 9-21.

[12] Erich Auerbach, Mimesis: The Representation of Reality in Western Literature, trans., W. R. Trask (New York: 1957); Angus Fletcher, Allegory: The Theory of a Symbolic Mode (Ithaca, New York: Cornell, 1964).

[13] See George Miller and Philip Johnson-Laird, Language and Perception, (Harvard, 1976), pp. 109-112.

[14] A. Paivio, Imagery and Verbal Process (New York: 1971); J. Peeck, "Retention of Pictorial and Verbal Content of a Text with Illustrations," Journal of Educational Psychology, 66 (1974), 880-888.

[15] See D. L. Schallert, "The Role of Illustrations in Reading Comprehension," in Theoretical Issues in Reading Comprehension, ed., Rand J. Spiro, et al (Hillsdale, N. J.: Erlbaum, 1980), 520.

[16] See Howard-Flanders, pp. 72-80.

[17] See A. Collins, et al, "Inference in Text Understanding," in Spiro, pp. 385-405.

REFERENCES (4)

[18] Cf. Aristotle's statement in the Rhetoric (1356[a] 1 ff.): "Of the modes of persuasion furnished by the spoken word there are three kinds. The first kind depends on the personal character of the speaker . . . his character may almost be called the most effective means of persuasion he possesses."

[19] See Lyons, I, 5-7.

[20] J. H. Flavell, "Metacognitive Aspects of Problem Solving," in The Nature of Intelligence, L. B. Resnick, ed., (Hillsdale, N. J.: Erlbaum, 1976), 232.

[21] "Matter, Mind, and Models," in Semantic Information Processing, ed., M. Minsky, (MIT, 1968), p. 426.

[22] Cf. Thrane, pp. 9 ff.

23 Cf. Christopher Alexander, Notes on the Synthesis of Form (Harvard, 1964), p. 2.

[24] See James Higginbotham, "Pronouns and Bound Variables," Linguistic Inquiry, 11 (1980), 679-708.

[25] Kenneth Burke, A Grammar of Motives & A Rhetoric of Motives (Cleveland, Ohio: World, 1962), pp. 544 ff.